

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

OYSTER OPTICS, LLC,

Plaintiff,

v.

CISCO SYSTEMS, INC.,

Defendant.

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Case No. 2:20-CV-00211-JRG

**PLAINTIFF OYSTER OPTICS, LLC'S
REPLY CLAIM CONSTRUCTION BRIEF**

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I. DISPUTED CONSTRUCTIONS FOR THE '500 PATENT

Term	Oyster's Proposed Construction	Defendants' Proposed Construction
"phase modulate" and variants including: phase modulating (claims 1, 17)	alter the phase of light to create an optical signal having a phase that is representative of data	altering the phase of light to create an optical signal having a phase that is representative of data, where the phase modulating does not include amplitude modulating
phase-modulated optical signals (claim 1) / phase modulated optical data (claim 16)	"phase modulate" should be construed as set forth above. Otherwise, no construction necessary.	optical signals created by phase modulation, <u>not amplitude modulation</u>
amplitude-modulating (claims 1, 17)	"amplitude modulate" and variants means "altering the amplitude of light to create an optical signal that is representative of data." Otherwise no construction necessary.	optical signals created by amplitude modulation, <u>not phase modulation</u>
amplitude-modulated signals (claim 16) / amplitude-modulated optical data (claim 17)	"optical signals created by amplitude modulation, not phase modulation"	
"mode" (claims 1, 16, 17)	No construction necessary.	period during which at least one specific optical data signal <u>is either amplitude modulated or phase modulated, but not both</u>

Cisco argues that its constructions for "phase modulate" and "phase modulated" are fundamentally different from the prior construction offered by Infinera and rejected by this Court. But the difference between what Cisco asks this Court to instruct the jury on the meaning of this term and what Infinera asked for is vanishingly small, if indeed there is any difference at all.¹

¹ Oyster regrets its error in repeating the construction proposed by Infinera in its opening brief, rather than that proposed by Cisco, and regrets any confusion that may result from this error. However, given the lack of any substantive difference in meaning between "excludes" and "does

Where Infinera’s construction said “excludes use of amplitude modulation,” Cisco’s instead says “does not include amplitude modulating.” See Ex. 8, *Infinera II* Claim Construction Opinion at 7. So, it seems that Cisco expects the jury to understand “does not include” in some fundamentally different way than it would have understood “exclude.” While there may be some difference between “exclude” and “not include” when speaking of the intent of a human actor, there is no difference that Oyster can discern when using these terms to describe abstract or inanimate objects such as modulations or optical signals.

Cisco’s brief explains at length a purported distinction from Infinera’s construction that is not apparent from the constructions it proposes for the jury. Cisco attempts to explain away the ’500 patent’s teachings of “mixed” optical signals (’500 patent at 3:62–65, 4:36–43) and claiming of a mode where “the light is both amplitude-modulated and phase-modulated” (*id.* at 10:26–27) by arguing that what the patent is referring to there is a “mode” where the amplitude- and phase-modulated signals are sent one after another and not at the same time. (Dkt. 62 at 4–5.)

But precisely this argument was made by Infinera and rejected by this Court. Ex. 8, *Infinera II* Claim Construction Opinion at 9–10. The Court found that “[t]he patent differentiates the ‘mixed’ signal from a simple switching between signal types,” explaining that lines 4:36–43 of the patent “refer[] to simultaneous amplitude- and phase-modulation as ‘a mixture of phase and amplitude modulation.’” *Id.* at 10. Indeed, Cisco appears to concede in its brief that lines 4:36–43 describe simultaneous phase- and amplitude-modulation, simply arguing that the amplitude-modulated data is “not related” to the phase-modulated data. (Dkt. 62 at 14.)

Lacking any support in the record for its theory that the claimed mode with both modulations really alternates between the two modulations, Cisco resorts to selective and misleading quotation from lines 7:62–65 of the specification, which states: “Signal 25 in FIG. 2 is shown as a combination of amplitude-modulated signals 23 and phase-modulated signals 22, ***which occurs for example when packets with different modes*** are sent one after another.” (’500

not exclude,” Oyster does believe that the arguments in that brief apply with full force to Cisco’s proposed constructions.

patent at 7:62–65 (emphasis added.) Cisco’s selective quotation omits the italicized portion and replaces the word “modes” with “modulation.” (Dkt. 62 at 4–5.) It then asserts this is “an example of *a mode* that uses both phase and amplitude modulation.” (Dkt. 62 at 5 (emphasis added).) But looking at the full quote from the specification, including the portion Cisco omitted, it is clear that the patent considers Signal 25 in Figure 2 to be an example of switching between two modes, not as a single mode with both amplitude modulation and phase modulation. As the Court properly found in *Infinera II*, the mixed signal mode of the ’500 patent involves simultaneous amplitude and phase modulation, and not simply alternating between modulations as suggested by Cisco.

In its discussion of the construction of “mode,” Cisco appears to further construe its own construction, explaining that by “specific optical data signal,” it means signal representing a specific “data stream.” (Dkt. 62 at 6, 11.) What it now argues for is a requirement that there be a “data stream” that is only represented by phase modulation or only represented by amplitude modulation. (*Id.*) This position of Cisco’s is not apparent from the construction that it has proposed. It also is entirely inconsistent with how the patent claims describe the relationship between “modes” and “data streams.”

Claim 1 requires “a controller having an input for receiving *an electronic data stream*, the controller *in a first mode* controlling the phase modulator so as to create phase-modulated optical signals in the light from the laser *as a function of the electronic data stream* and the controller *in a second alternate mode* amplitude-modulating the light from the laser *as a function of the electronic data stream . . .*” In other words, claim 1 refers to only a single “data stream” and expressly requires using that single data stream (or portions of the stream at least) both for phase modulation and for amplitude modulation at different points in time. Cisco’s notion that the patent requires a “data stream” that is used solely with phase modulation or solely with amplitude modulation is unsupported by the actual teachings of the patent and contradicted by the language of claim 1, and it should be rejected by this Court.

Cisco’s arguments in its brief concerning “mode” illustrate another problem with Cisco’s proposed construction for this term: it defines “mode” as a “period,” which is inconsistent with

how the patent uses the term “mode.” The patent speaks of “transmission modes,” such as “a phase-modulated transmission mode or an amplitude-modulated transmission mode, or both a phase and amplitude modulated transmission mode.” (’500 patent at 2:41–45.) In other words, a mode is a particular way that the device operates to transmit or receive data. Under this use of the word “mode,” it is clear that signal 25 in Figure 2 contains “different modes . . . sent one after another,” as the specification expressly says (*id.* at 7:62–65) and as Cisco’s brief ignored (Dkt. 62 at 4–5).

Treating a “mode” as a “period,” as Cisco proposes, means that signal 25 could be one “mode” or could be two modes or twenty modes, depending on how one chose to split it up. Further, claim 4 of the patent claims a “switch for switching between” modes” and claim 5 requires that the switch be operator-activated. An operator-activated switch between modes suggests a switch between ways of operating, not between one period of time and another. Indeed, time passes whether an operator activates a switch or not. The fact that the ’500 specification and claims do not support construing “mode” as a “period,” and instead seem to use “mode” in a way inconsistent with that construction is another reason that Cisco’s construction should be rejected.

Cisco’s arguments concerning the prosecution history fare no better. As this Court found in *Infinera*, the claim language added by amendment during prosecution “concerns whether the two modes are mutually exclusive in time.” Ex. 8, *Infinera II* Claim Construction Opinion at 11–12. The Djupsjöbacka reference that prompted the amendments always transmitted the same signal in both amplitude modulation “mode” and phase modulation “mode.” Dkt. 62, Ex. 7, Djupsjöbacka at Fig. 1, 2:50–57. (The fact that Djupsjöbacka—and Oyster in responding to this reference during prosecution—both referred the amplitude- and phase-modulation as two “modes,” even though they occur in Djupsjöbacka at the same time further highlights the incorrectness of construing a “mode” as a “period.”) Oyster did not attempt to distinguish Djupsjöbacka by arguing that it did not have two modes. Rather, it expressly accepted that Djupsjöbacka sends “the same signal . . . in AM and PM mode at the same time.” Dkt. 62, Ex. 6 at 122. It amended the claims to require that the two modes of the claims had to happen at different times. In other words, the amendments added no limitations of what the two claimed modes could be, aside from the fact that they must

occur at “separate” times. As neither the examiner nor Oyster ever argued that Djupsjöbacka had a mode with simultaneous amplitude and phase modulation in the same mode, nothing that Oyster did to distinguish Djupsjöbacka would exclude such a mode from the scope of the claims.

Cisco’s argument that the prosecution excludes modulating the same data stream—or individual bits from that data stream—using both amplitude and phase modulation is contrary to the plain language of the amended claims. As amended and as issued, claim 1 expressly requires both phase modulating and amplitude modulating as a function of the same “electronic data stream.” (’500 patent at 8:32–40.) While the amendment requires two modes occurring at separate times, nothing in the amendment precludes phase modulating light with a given bit and also amplitude modulating light with that bit, so long as the express requirements of claim 1 are satisfied.

As for Cisco’s citation of extrinsic evidence in the form of the Agrawal textbook, none of this evidence compels the construction Cisco proposes. As Cisco concedes, the ASK modulation described by Agrawal is simply “a common form of amplitude modulation,” and the PSK modulation described by Agrawal is likewise “a common form of phase modulation.” (Dkt. 62 at 13–14.) There is no reason in the record for limiting the claims to these “common forms” of modulation, to the exclusion of other less-common forms.

Cisco’s argument that Oyster’s construction renders language “meaningless” likewise fails. Taking claim 19 as an example, the claim requires that the first mode use phase-modulation and that the second mode use both amplitude modulation and phase modulation. It may be that this claim could be satisfied by a system with two distinct modes that both involve both amplitude-modulation and phase-modulation. But, that does not render the very specific requirements of the claims “meaningless,” any more than the existence of paper bags renders a claim that requires a “paper object” and a “bag” meaningless.

Moreover, Cisco’s interpretation of the claims renders language “meaningless” just as much as Oyster’s. Under Cisco’s interpretation, signal 25 of Figure 2, which alternates between amplitude modulation and phase modulation, satisfies its constructions for a “phase-modulated”

“mode,” for an “amplitude-modulated” “mode,” and for a “mode” that is both “phase-modulated” and “amplitude-modulated.” So Cisco’s constructions also fail to provide the “meaningful distinction” between modes that Cisco argues is required. (Dkt. 62 at 16.)

For each of these reasons, Cisco’s constructions for the ’500 patent should be rejected and Oyster’s constructions adopted.

II. DISPUTED CONSTRUCTIONS FOR THE ’898 PATENT

A. “a transmitter having a laser, a modulator, and a controller” (’898 cl. 1, 14)

Oyster’s Proposed Construction	Cisco’s Proposed Construction
No construction necessary	“transmitter containing a laser, a modulator, and a controller”

Cisco’s does not deny that “having” is plain English word used in its ordinary sense in the claims of the ’898 Patent. Accordingly, deviating from the plain and ordinary meaning of “having,” and changing it to “containing,” requires a disavowal “of the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Computer Entertainment America, LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Cisco fails to show any such disavowal.

Cisco first cites teaching that the *transceiver card* must include various components as showing disavowal. Cisco Br. at 19. Cisco ignores that the transmitter is one of these components. *See* ’898 Patent at 3:9-18 (providing a swappable transceiver card having the “OTDR and energy level detector parts along with the optical transmitter and receiver components . . . all one card”). Oyster does not contest that the transmitter and laser must be part of the same card. However, this does not mean that the laser must be contained *within* the transmitter as Cisco contends.

Cisco cites to Judge White’s discussion of this same teaching, but this fails to support the construction for largely the same reason. Cisco Br. at 19. Moreover, Cisco’s contention that Judge White “was not importing limitations into the claims” misstates his opinion. Judge White plainly relied on teaching of an embodiment that “th[e] laser amplitude modulator and laser . . . define a transmitter” as supporting his conclusion that “having” meant “containing within the meaning of the claims. *Id.* at 19 (quoting Ex. 5 at 21).

Cisco's attempts to find prosecution history disclaimer based on Oyster's statements in IPRs also fails. Oyster's actual statements, as opposed to the PTAB's characterization of the statements, only distinguished the prior art on the grounds that it did not disclose a "laser" at all as part of a transceiver card—the location of the laser as inside or outside of the transmitter was irrelevant:

"transceiver card." Pet., 25-26. Petitioners allege that "a POSITA would have found it obvious, in view of Chikama, to include a laser in Corke's transmitter that generates optical light, a modulator that modulates the optical output of the laser, and a controller that controls the modulator operation based on data input to the transmitter," without addressing the requirement of placing a laser on the claimed "transceiver card." *Id.* Thus, two of the asserted references of this challenge—

Ex. 8 at 41.

assert that "Ade's transmitter includes input light 16" Pet., 32. This statement is misleading at best since *Ade's transmitter does not include a light source and Ade does not disclose a light source on a transceiver card.* Any disclosure of a transmitter or transceiver by Ade necessarily *excludes* a light source. It appears

Ex. 10 at 20. None of these statements amount to clear and unambiguous disavowal that the transmitter itself, as opposed to the transceiver card, must "contain" the laser. The Court should decline Cisco's invitation to re-write the claims and leaving "having" to its plain and ordinary meaning.

B. "output data" ('898 Patent, cl. 1, 14)

Oyster's Proposed Construction	Cisco's Proposed Construction
"data outputted by the receiver"	"the data <u>encoded in the second optical signal and</u> outputted by the receiver."

Cisco relies almost exclusively on Judge White's construction, while ignoring his underlying analysis. Judge White's reasoning was as follows:

The specification explains that traditional transceivers transmit optical signals “representative of electronic data stream” and use a photodiode to “convert the optical signals back into the electronic data stream” at the receiver. (’898 Patent at 1:27-35.) The embodiments show that the receiver “converts the optical signal from optical to electronic form to recover the electronic data stream 34.” (Id. at Fig. 2, 5:2-5.) The claims similarly recite “generat[ing] a first optical signal as a function of the input data” and “convert[ing] the second optical signal to output data” (where, presumably, the second optical signal is also a “function” of the data). (Id. at claims 1, 14; accord id. at Fig. 2.)

Ex. 5 at 18.

Judge’s White’s reliance on teaching that the receiver “converts the optical signals back into electronic form” supports limiting output data to data “encoded in the second optical signal” is curious in light of the fact that in the prior paragraph he discounted such teaching as a non-limiting description of a preferred embodiment. *Id.* (“Although, the specification describes converting the second optical signal to electronic form, it uses no words of exclusion ... that would suggest the invention is limited to such embodiments.”). This Court reached the same conclusion in its *Infinera I* Markman Order. Ex. 17 at 11. As a description of a preferred embodiment, this teaching should not be written into the claims, regardless of what term is being construed. *See JVW Enters., v. Interact Accessories, Inc.*, 424 F.3d 1324, 1335 (Fed. Cir. 2005) (courts “do not import limitations into claims from examples or embodiments appearing only in a patent’s written description”).

Judge White’s only other support for requiring the output data be “encoded in the second optical signal” was the language of the claims and his *presumption* as to what it entailed: “The claims similarly recite “generat[ing] a first optical signal as a function of the input data” and “convert[ing] the second optical signal to output data” (*where, presumably, the second optical signal is also a “function” of the data*). (Id. at claims 1, 14; accord id. at Fig. 2.)” Ex. 5 at 18 (emphasis added). Judge White’s Order provides no specification support for limiting the second optical signal to a “function of the data.” Cisco’s Brief likewise contains no support for any such limitation, other than to the teaching of converting optical signals to electronic form. Cisco Br. at 21-23.

Indeed, nothing in the claims or specification requires that the second optical signal be a function of the data. The claims only require the second optical signal be received by the receiver and converted output data. '898 Patent, Claim 1 (“a receiver configured to receive a second optical signal from the second optical fiber and to convert the second optical fiber to the transceiver card”); Claim 14, same. For this reason, Cisco’s construction should be rejected.

C. “input data” ('898 Patent, cl. 1, 14)

Oyster’s Proposed Construction	Cisco’s Proposed Construction
data inputted to the transmitter	“the data inputted by the transmitter and encoded in the first optical signal ”

Cisco’s brief makes no attempt to support its construction of “input data” other than through reliance on an obvious typographical error in Oyster’s brief. Cisco Br. at 23. As used in the claims, and taught by the specification, the modulator must “generate a first optical signal *as a function* of the input data.” '898 Patent, claim 1. There is no requirement that the input data itself must be encoded in the first optical signal as Cisco suggests.

III. DISPUTED CONSTRUCTIONS FOR THE '516 PATENT

A. “voltage” ('516 Patent, Claims 1, 8, 12, 17, 19, 21)

Oyster’s Proposed Construction	Cisco’s Proposed Construction
Plain and ordinary meaning. In the alternative: “difference in electrical potential expressed in volts”	“electric pressure that causes current to flow in a circuit”

Cisco’s provides *zero* explanation as to why “voltage” should be construed. Cisco’s construction appears to admit that the word has a plain and ordinary meaning to a POSITA and is used in the '516 Patent according to that meaning. *See* Cisco Br. at 24 (“As ‘voltage’ is used in the '516 Patent, it is referring to the electrical property itself, *i.e.*, something that can deliver a physical shock.”). Cisco invites the Court to commit legal error, and to the construe the term as would be understood “by a lay person,” instead of one skilled in the art. *Advanced Aerospace Techs., Inc. v. United States*, 122 Fed. Cl. 445, 454 (2015) (“The federal trial judge is required to examine patent claim terms and phrases ‘through the viewing glass of a person skilled in the art.’”) (quoting *Brookhill–Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 (Fed. Cir. 2003)).

In the event, the Court decides to construe the terms Oyster’s construction is correct. Cisco spends a great deal of time discussing the concept of “comparators” and “coupling” as used in the claims, ignoring the fact that neither of these terms involve the application of the “electrical pressure” and “current” limitations they seek to write into the claims. Instead, the claims require only that the “comparator” “include[] a first input coupled to an output voltage indicative of the photodetector voltage” and a “second input coupled to a corresponding reference voltage” so that the comparator can “generate[] a comparator signal indicative of a comparison between” the two voltages. Thus, what is important for the claims is not how much pressure or current is flowing through the circuit, but that the difference between the voltages can be measures—in other words, expressed in volts as found in Oyster’s construction.

Although Cisco discounts Oyster’s construction as “technical jargon,” Cisco Br. at 24, it fails to explain how the multiple technical terms it introduces including “electrical pressure” and “current” are any more understandable to the jury. Moreover, Cisco fails to note that Oyster’s construction comes from the same intrinsic evidence on which it relies. Cisco’s attempts to introduce new concepts into the claims just to make Oyster’s infringement case more difficult should be rejected.

Dated: April 2, 2021

Respectfully submitted,

By: /s/ Reza Mirzaie

Marc A. Fenster (CA SBN 181067)

Email: mfenster@raklaw.com

Reza Mirzaie (CA SBN 246953)

Email: rmirzaie@raklaw.com

Paul Kroeger (CA SBN 229074)

Email: pkroeger@raklaw.com

Neil Rubin (CA SBN 250761)

Email: nrubin@raklaw.com

RUSS AUGUST & KABAT

12424 Wilshire Boulevard, 12th Floor

Los Angeles, CA 90025

Telephone: 310/826-7474

Facsimile 310/826-6991

Attorneys for Plaintiff
Oyster Optics, LLC

CERTIFICATE OF SERVICE

I hereby certify that the counsel of record who are deemed to have consented to electronic service are being served on April 2, 2021 with a copy of this document via the Court's ECF system.

DATED: April 2, 2021

Respectfully submitted,

By: /s/ Reza Mirzaie
Reza Mirzaie